

55. The method of claim 54, wherein the method comprises administering the compound or a salt thereof in an amount sufficient to reduce sperm number and/or reduce sperm motility.

56. The method of claim 55, wherein the method comprises administering the compound or a salt thereof in an amount sufficient to induce azoospermia, oligozoospermia, and/or asthenozoospermia.

57. A method of reducing the rate of male fertility in a healthy fertile male subject in a subject in need thereof, the method comprising administering to the subject a therapeutically effective amount of a compound of any one of claims 1-33, or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, or a pharmaceutical composition of claim 34 or 35.

58. The method of any one of claims 36-57, wherein the subject is a mammal.

59. The method of claim 57, wherein the subject is a human.

60. A method of inhibiting the activity of a cyclin-dependent kinase (CDK) in a biological sample or subject, the method comprising administering to the subject or contacting the biological sample with a therapeutically effective amount of a compound of any one of claims 1-33, or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, or a pharmaceutical composition of claim 34 or 35.

61. The method of claim 59, wherein the CDK is a TAIRE family kinase.

62. The method of claim 59, wherein the CDK is CDK14.

63. The method of claim 59, wherein the CDK is CDK15, CDK16, CDK17, or CDK18.

64. The method of claim 59, wherein the compound is capable of covalently modifying CDK14.

65. The method of claim 64, wherein the compound is capable of covalently modifying C₂₁₈ of CDK14.

66. The method of any one of claims 36-59, further comprising administering to the subject a therapeutically effective amount of an additional pharmaceutical agent in combination with the compound, the pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, or the pharmaceutical composition.

67. The method of any one of claims 60-65, further comprising administering to the subject or contacting the

biological sample with a therapeutically effective amount of an additional pharmaceutical agent in combination with the compound, the pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, or the pharmaceutical composition.

68. The method of claim 66 or 67, wherein the additional pharmaceutical agent is an anti-proliferative agent.

69. The method of claim 68, wherein the additional pharmaceutical agent is an inhibitor of a CDK.

70. The method of claim 68, wherein the additional pharmaceutical agent is an inhibitor of a CDK14.

71. The method of claim 74, wherein the additional pharmaceutical agent is an inhibitor of CDK15, CDK16, CDK17, or CDK18.

72. The method of claim 68, wherein the additional pharmaceutical agent is an immunotherapy agent.

73. The method of claim 72, wherein the immunotherapy agent is a PD1 inhibitor

74. The method of claim 72, wherein the immunotherapy agent is a PDL1 inhibitor.

75. A method of inducing apoptosis in a cell in a biological sample or subject, the method comprising administering to the biological sample or subject a therapeutically effective amount of a compound of any one of claims 1-33, or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, or a pharmaceutical composition of claim 34 or 35.

76. Use of a compound to treat and/or prevent a disease in a subject in need thereof, the use comprising administering to the subject a therapeutically effective amount of a compound of any one of claims 1-33, or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, or a pharmaceutical composition of claim 34 or 35.

77. A kit comprising:

a compound of any one of claims 1-33, or a pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, or a pharmaceutical composition of claim 34 or 35; and

instructions for administering to a subject or contacting a biological sample with the compound, or the pharmaceutically acceptable salt, solvate, hydrate, tautomer, or stereoisomer thereof, or the pharmaceutical composition.

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